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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,013	12/21/2004	Alberto Lodolo	KAR 007	7643

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Themis Intellectual Property Counsel
7660 Fay Ave Ste H378
La Jolla, CA 92037

EXAMINER	
JACYNA, J CASIMER	
ART UNIT	**PAPER NUMBER**
3754	
MAIL DATE	**DELIVERY MODE**
06/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,013	LODOLO, ALBERTO	
	Examiner	Art Unit	
	J. Casimer Jacyna	3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27 and 31-41* is/are rejected.

7)☒ Claim(s) *28-30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *040907*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Wynn (2,880,961). Wynn discloses a diaphragm valve including a concave convex dome 24 shaped like an ellipsoid as shown in the top view of figure 13 at 24b with a substantially rectangular sealing flange 24d, 24e and a stiffening rib 24k.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 10, 11, 15, 18, 19, 21, 22, 26, 27 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani (3,349,795) in view of Rumsey (4,214,604). Matsutani discloses a diaphragm valve including circular entry ports 31 (see figure 9f), inlet sleeves with converging arched profiles as shown at 34, a fluid flow chamber 46, a body clamping flange 55, a bonnet 18, a bonnet clamping flange 25, a flattened central valve seat at the peak of the arched profiles 54 (note the profile of the valve seat in Matsutani figures 7 or 9a is approximately the same as the profile shown in figure 1 of the disclosure, and the surface of the valve seat in figure 9b of Matsutani is approximately the same as figure 2 of the disclosure), an elastomeric diaphragm with a sealing flange portion shown at 12 in figure 1a and a concave convex dome shown at

13 in figure 1a with the concave side oriented toward the valve seat in the unstressed position as shown in figure 1b and portion 13 of the diaphragm being made from elastomeric material as claimed, a means for compressing 14, with the inlet and outlet sleeves having semi-circular shapes at the fluid flow chamber as shown at 46 in figure 9b wherein the overall shape of the valve seat area is circular as shown in the top view of figure 9b (note that when circles are viewed from an angle they appear elliptical as shown in figure 10). Consequently, Matsutani discloses a diaphragm valve substantially as claimed but does not disclose an elliptical shape for the valve dome. However, Rumsey discloses another diaphragm valve having en elliptical shape for the diaphragm and a rectangular shape for the sealing flange for the purpose of improving fluid flow parameters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Matsutani with an elliptically shaped diaphragm and a rectangular sealing flange as, for example, taught by Rumsey in order to improve fluid flow parameters.

5. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani (3,349,795) in view of Rumsey (4,214,604) as applied to claim 10 above and further in view of Stack (4,538,638). Matsutani discloses a diaphragm valve substantially as claimed but does not disclose any tabs or bosses. However, Stack teaches another diaphragm valve having a bosses 25, 26 with extending tabs on the sealing flange that fit into the depressions behind the bosses for the purpose of more securely attaching the seal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Matsutani with

tabs and bosses as, for example, taught by Stack in order to more securely attach the seal.

6. Claims 12-14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani (3,349,795) in view of Rumsey (4,214,604) as applied to claim 10 above and further in view of Gotch et al. (6,189,861). Matsutani discloses a diaphragm valve substantially as claimed but does not disclose any projections, teeth, tabs or bosses. However, Gotch teaches another diaphragm valve having a projection 26c on the bonnet 26 for holding diaphragm 28 wherein projection 26c is in the shape of a tooth and could be described as a boss or a tab that extends around the entire periphery of the diaphragm bonnet for the purpose of more securely attaching the seal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Matsutani with a bonnet projection as, for example, taught by Gotch in order to more securely attach the seal.

7. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsutani (3,349,795) in view of Rumsey (4,214,604) as applied to claim 1 above and further in view of Walton et al. (6,102,071). Matsutani discloses a diaphragm valve substantially as claimed but does not disclose a measuring device. However, Walton teaches another diaphragm valve having a measuring device 186 for the purpose of indicating the rate of flow through the valve. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Matsutani with a measuring device as, for example, taught by Walton in order to indicate the rate of flow through the valve.

8. Claims 1-12, 15, 18-21, 23-27 and 31-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frenkel (6,095,484) in view of Rumsey (4,214,604). Frenkel discloses a diaphragm valve including circular entry ports marked INLET, OUTLET in figure 5, converging arched profiles leading to a flat valve seat 5 as shown in figures 5 and 6, a fluid flow chamber adjacent 24, a body clamping flange 18, a bonnet 19, a bonnet clamping flange shown at 20 in figure 5, a flattened central valve seat at the peak of the arched profiles 5 (note the profile of the valve seat in Frenkel figures 5 or 6 is approximately the same as the profile shown in figure 1 of the disclosure), an elastomeric diaphragm 14 with a sealing flange at 6 and a concave convex at 4 with the concave side oriented toward the valve seat in the unstressed position as shown in figure 6, a means for compressing 21, and a measuring device (see claim 41) 22, with the inlet and outlet sleeves having semi-circular shapes at the fluid flow chamber as shown in figure 4 wherein the overall shape of the valve seat area is circular as shown in the top view of figure 4 substantially as claimed but does not disclose an elliptical valve seat with the inlet and outlet sleeves having semi-elliptical shapes at the fluid flow chamber. However, Rumsey discloses another diaphragm valve having en elliptical shape for the diaphragm and a rectangular shape for the sealing flange for the purpose of improving fluid flow parameters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Frenkel with an elliptically shaped diaphragm and a rectangular sealing flange as, for example, taught by Rumsey in order to improve fluid flow parameters. In regard to

claims 3-9 and 25, Frenkel discloses ribs 8, 9, 11 and 12, which ribs inherently serve to prevent bulging and perform the function of a spring.

9. Claims 13, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frenkel (6,095,484) in view of Rumsey (4,214,604) as applied to claim 10 above and further in view of Gotch et al. (6,189,861). Frenkel discloses a diaphragm valve substantially as claimed but does not disclose any projections, teeth, tabs or bosses. However, Gotch teaches another diaphragm valve having a projection 26c on the bonnet 26 for holding diaphragm 28 wherein projection 26c is in the shape of a tooth and could be described as a boss or a tab that extends around the entire periphery of the diaphragm bonnet for the purpose of more securely attaching the seal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the valve of Frenkel with a bonnet projection as, for example, taught by Gotch in order to more securely attach the seal.

10. Applicant's arguments filed 4/9/2007 have been fully considered but they are not persuasive. Applicant contends that the diaphragm of Wynn is bathtub shaped with flat portions and thereby is no an ellipsoid as claimed. In regard to paragraph 4, portion 13 of the diaphragm of Matsutani is elastomeric as claimed, plus the diaphragm includes a sealing flange connected with the dome being part of the diaphragm and extending from the sealing flange with elastomeric element 13 having this configuration. Applicant contends that Rumsey does not disclose an actual elliptically sided weir valve seat, however, as noted above, this is taught at 54 in Matsutani. Rumsey does teach that the shape of the diaphragm dome can have an rectangular sealing flange at 21 that is

connected to an elliptical shape dome at 53 when the diaphragm is in the open position. The fact that the central portion of the dome is substantially elliptical is shown in figures 5 and 8. One of ordinary skill in the art would have considered the various possible shapes for the upper valve housing and the inner diaphragm that matches the shape of the housing to be art recognized equivalents since the actual shape does not affect the functioning of the valve. Likewise with Frenkel, the difference is the shape of the upper valve dome and the matching housing which again would be obvious in view of the shapes taught in Rumsey.

11. Claims 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Casimer Jacyna whose telephone number is 571-272-4889. The examiner can normally be reached on Wed. thru Fri. 9AM-7PM, Mon. 7AM-1PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J. Casimer Jacyna
Primary Examiner
Art Unit 3754

JCJ